

one flow restrictor for controlling the flow of fluid between the reaction chamber and the separation region, and wherein the portion of the unitary body defining the transition region has lower thermal conduction than the portion of the body defining the reaction chamber so that the transition region substantially thermally isolates the reaction chamber from the separation region.

16. (amended) A method for producing a sample-processing device, the method comprising the steps of:

- a) molding a one-piece polymeric body having:
- i) a reaction chamber for chemically reacting a sample;
 - ii) a separation region for separating components of the sample; and
 - iii) a transition region connecting the reaction chamber to the separation region, wherein the polymeric body is molded such that [the reaction chamber, transition region, and separation region are formed in and enclosed by the body and such that] the portion of the body defining the transition region has lower thermal conduction than the portion of the body defining the reaction chamber; and
- b) embedding at least two electrodes in the polymeric body such that the electrodes are positioned to force the sample to flow from the reaction chamber or from the transition region into the separation region when a voltage difference is applied to the electrodes.